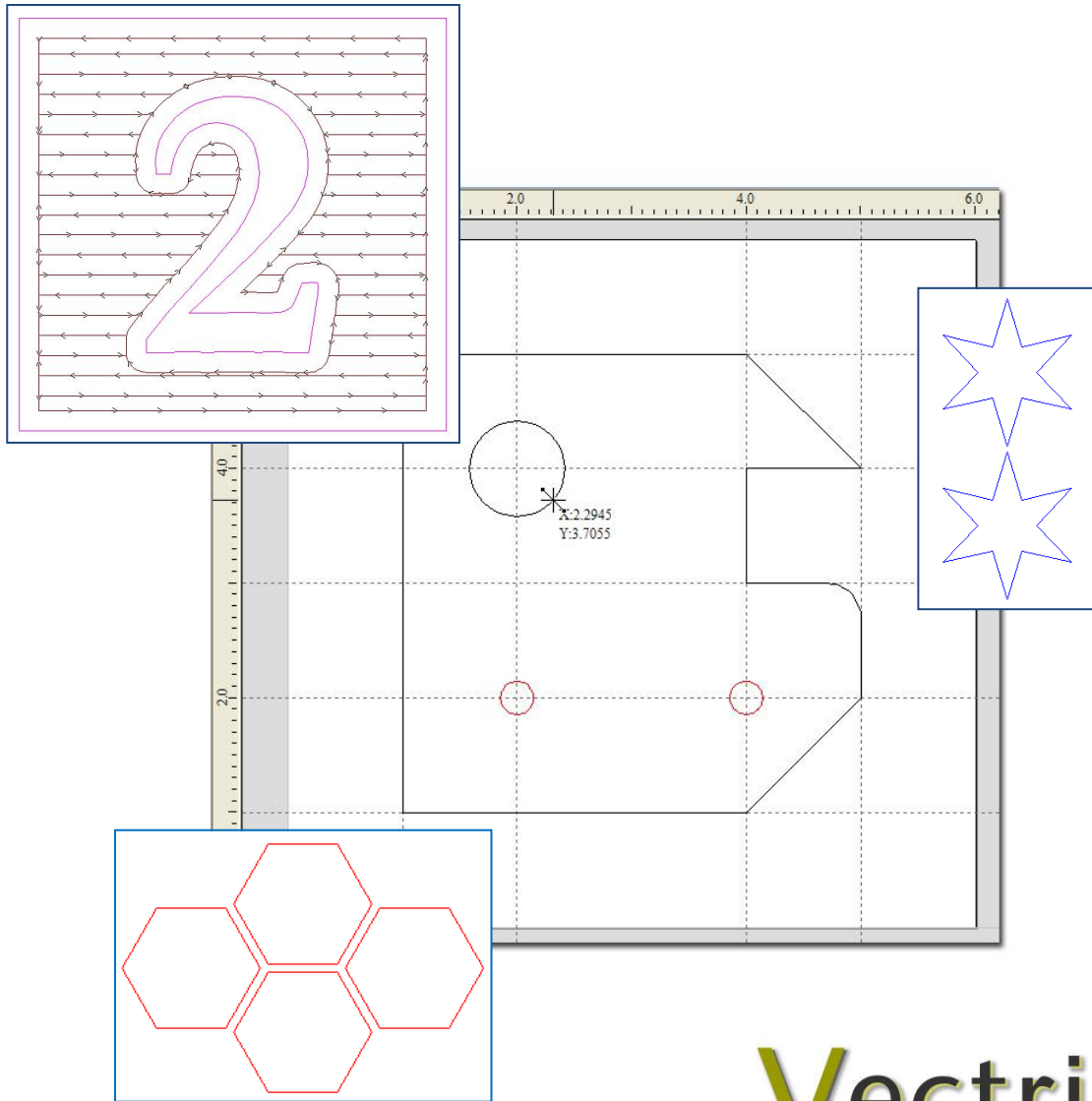


What's New In VCarve Pro 4.5



Vectric

VCarve Pro

Disclaimer

All CNC machines (routing, engraving, and milling) are potentially dangerous and because Vectric Ltd has no control over how the software described in this manual might be used. Vectric Ltd or any associated Resellers cannot accept responsibility for any loss or damage to the work piece, machine or any individual, howsoever caused by misusing the software. Extreme care should always be taken and the output from the software thoroughly checked before sending it to a CNC machine.

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Introduction

New layout and preview functionality has been added to VCarve Pro 4.5 to make designing and laying out projects much quicker, easier and more precise.

New 2D Toolpath Preview options also make toolpath verification significantly easier and instantly shows exactly where toolpaths will machine and where material will be left on the job.

Installation

Vetric will email you a link for you to download an Upgrade File that will install VCarve Pro version 4.5.

Click the Run button and the patch program will automatically detect and install the upgrade into your current VCarve Pro 4.0 folder structure.

Note If you have **NOT** installed the software in a folder **C:\Program Files\VCarve Pro 4.0** please contact the Vetric Support Team and additional instructions will be provided.

The Upgrade program will retain the Tool Database from your VCarve Pro 4.0 installation, so any additional / custom tools that have been added will also be available in version 4.5.

If you experience any difficulties or require assistance please e-mail - support@vetric.com

Backing Up the Tool Database

For safe keeping you may wish to make a safe / backup copy of the version 4.5 tool database.

Make a safe copy of the file,

C:\Program Files\VCarve Pro 4.0\ToolDatabase\tools.tool_db

If you need assistance with this e-mail - support@vetric.com

Summary

The new tools in VCarve Pro 4.5 have been added to make designing and laying out projects much easier, quicker and more precise. Most of the new functionality is found in the 2D window where tools such as Rulers and Guide Lines plus accurate Snapping options are perfect for accurate drawing and object placement.

The high quality Toolpath Preview has been enhanced to show the toolpaths in the 2D Window and see instantly what the toolpaths will and won't actually cut.

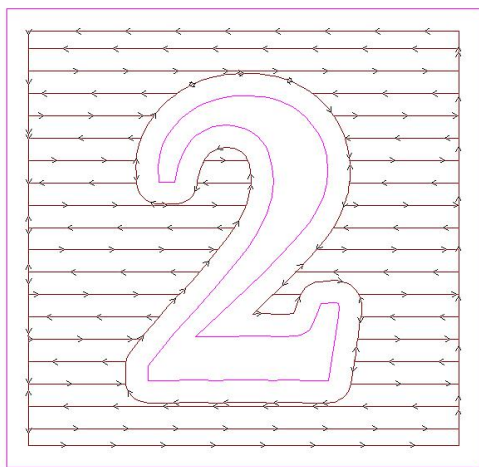
New Toolpath Preview Options

Although the high quality colour shaded 3D Toolpath preview options in VCarve Pro give fantastic results that are perfect for printing and customer approvals etc. It can sometimes be difficult to determine whether a toolpath is cutting Outside / Inside / On a line.

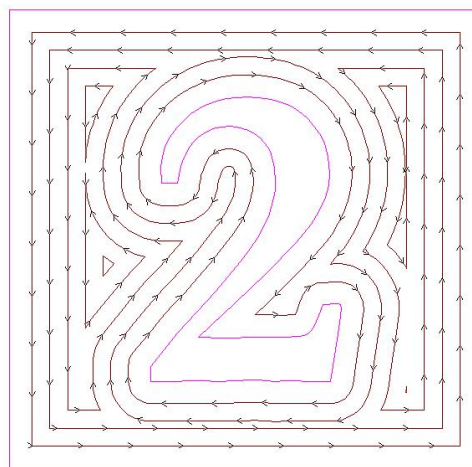
The New 2D Preview options show exactly where toolpaths will cut relative to the vectors. The 2D preview can be selected to draw the vector lines to represent the centre point of the cutter or to show in solid colour the complete area that the cutter represents relative to the vectors. This shows where the cutter will leave material on the job – for example leaving fillets in corners that the cutter cannot get into.

2D Wireframe Toolpath Preview

The Wireframe 2D Toolpath shows arrows to indicate the cutting direction and can be used to preview all calculated toolpaths in the 2D window.



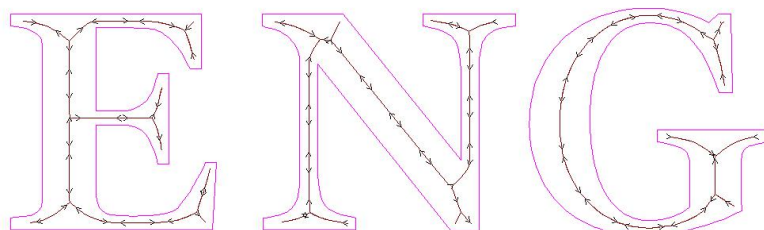
Raster Pocket Toolpath



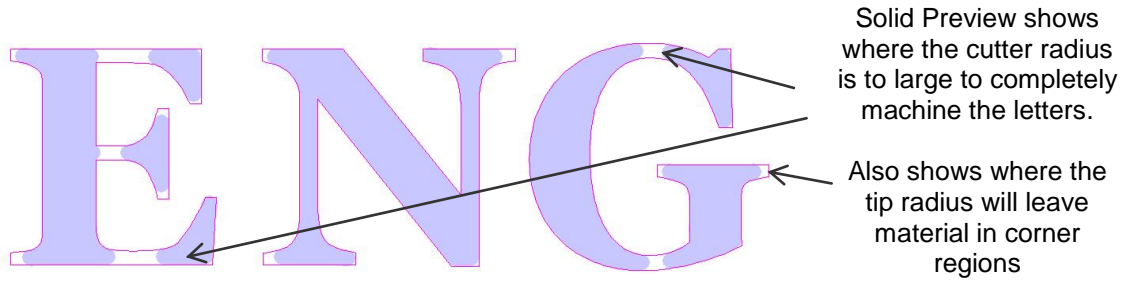
Offset Pocket Toolpath

2D Solid Toolpath Preview

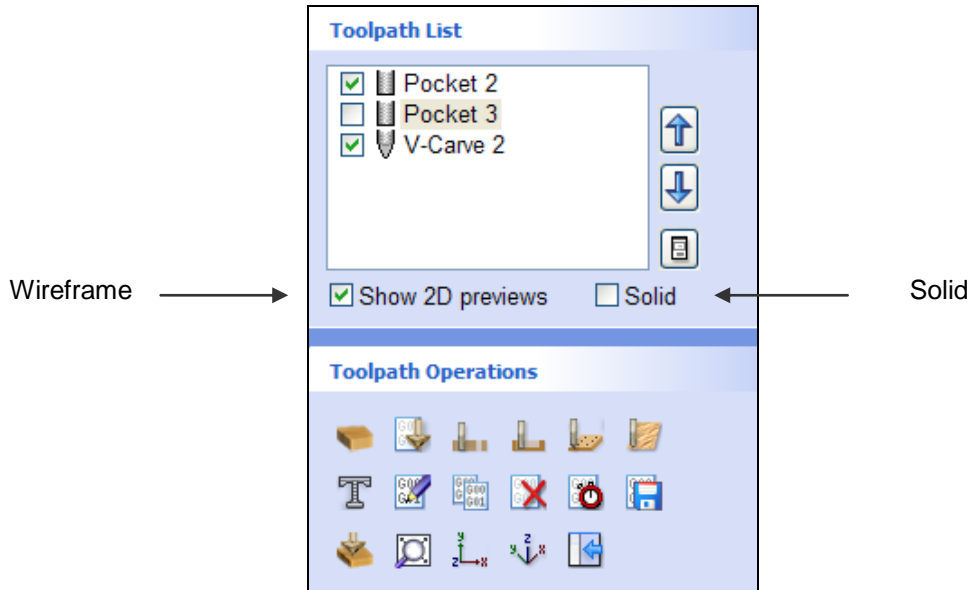
The solid 2D Toolpath preview shows exactly where material will be removed and instantly shows where material will be left because the cutter is too large to fit through the selected vectors.



Wireframe Preview for
Engraving / VCarving
Toolpath

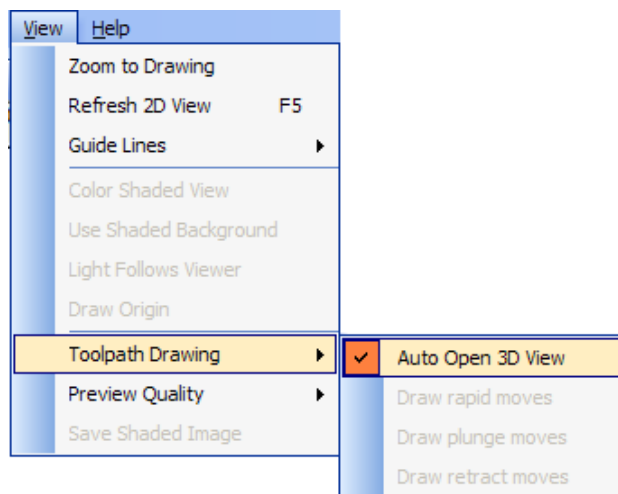


The visibility of 2D toolpath previews is controlled using the Toolpath List Manager to display or hide any calculated toolpaths in the 3D window.



Auto Open 3D View

A new option has been added that enables the 2D view to remain open after calculating toolpaths, instead of automatically opening the 3D view, which is the way previous versions of the software behaved. This is quite useful for experienced users who may be calculating multiple toolpaths and don't always wish to keep the 3D view.



New Design and Layout Tools

Additional layout and drawing tools have been added to the Drawing Tab on the Left side of the interface and this document explains what these enhancements are.

2D View

Rulers, Guide Lines, a Snap Grid and Toolpath Previews are now all available in the 2D View

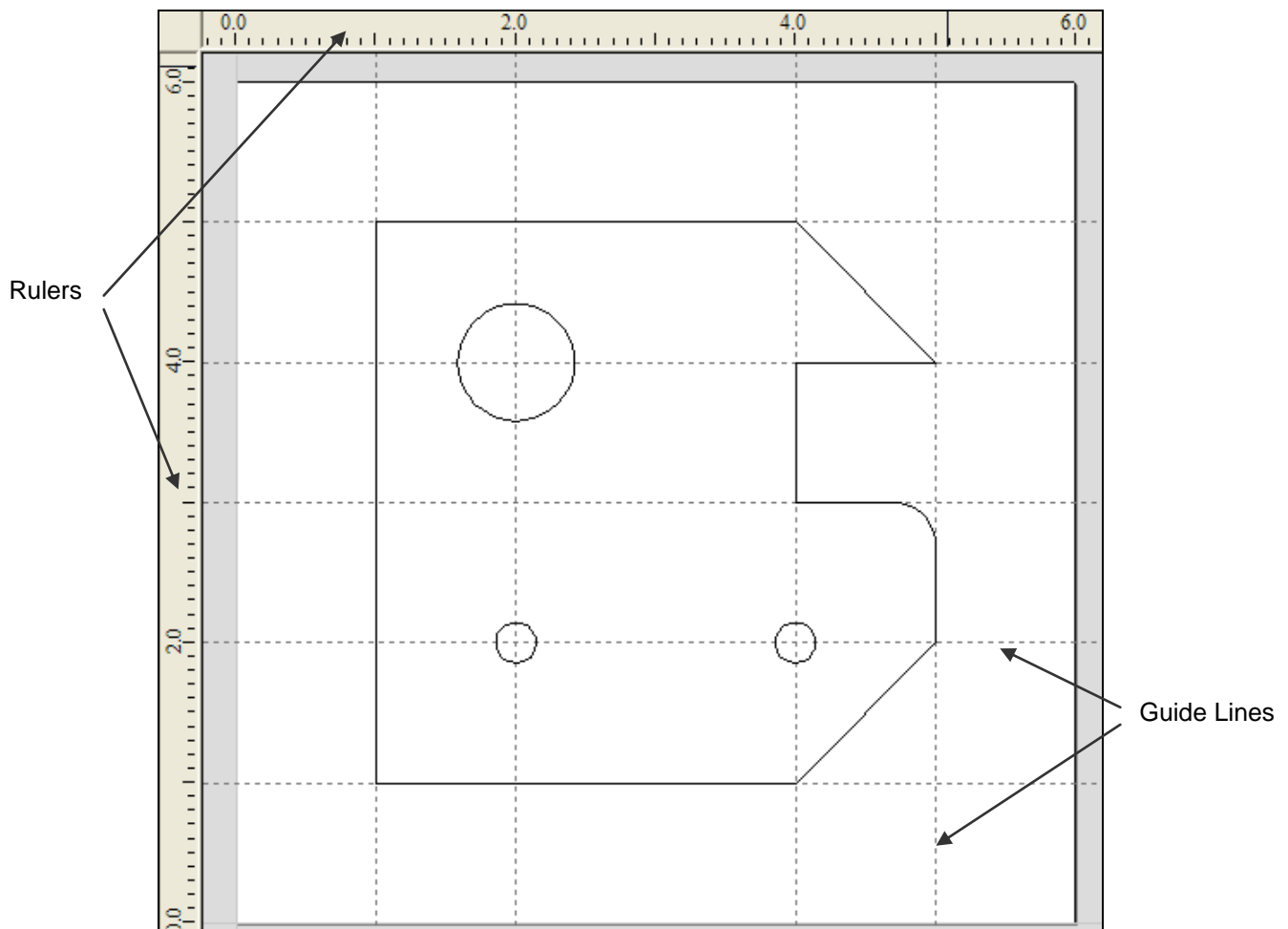
Rulers

Horizontal and Vertical Rulers have been added to the 2D window that give immediate view of the job size and make it much easier to layout designs.

Zooming in / out changes the unit values displayed on the rulers with units in 10ths.

10" > 1" > 0.1" > 0.01" > 0.001"

100mm > 10mm > 1mm > 0.1mm

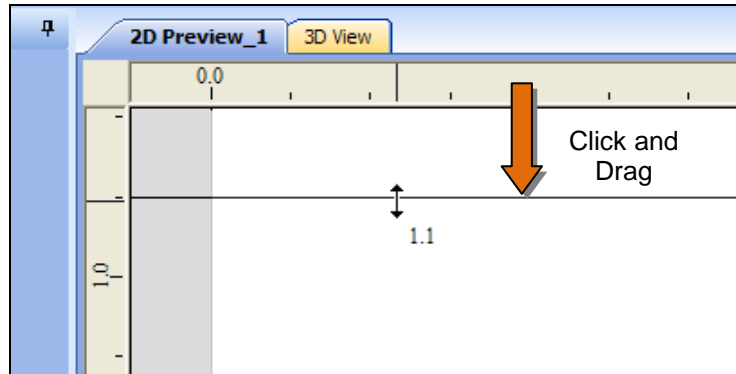


Rulers and Guide Lines make drawing shapes much easier

Guidelines

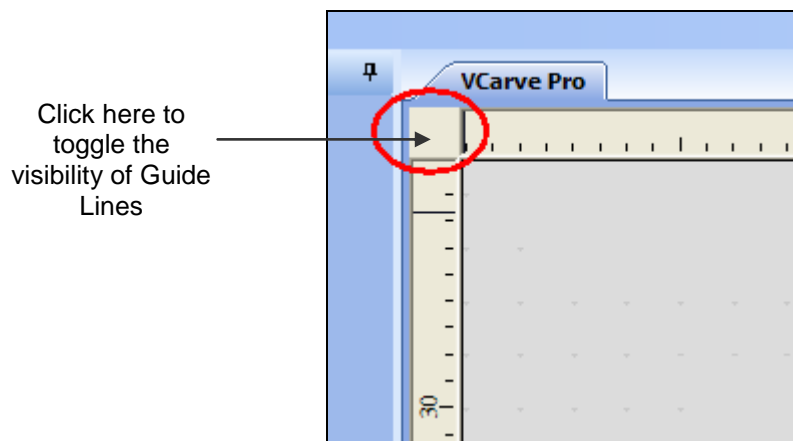
Guide Lines make sketching designs quick and easy and are also very useful for drawing and aligning objects relative to each other.

Guidelines are added by **Clicking and dragging** (left mouse button) a guide off the rulers. The position of the Guide Line is displayed next to the cursor while dragging it to the required position.



The guides automatically snap to the whole units displayed on the ruler making it very easy to position a guide at the required location.

To show or hide the Guide Lines in the 2D window click in the **Top Left corner of the window** where the vertical and horizontal rulers meet.



Guide lines are deleted by clicking and dragging each guide line off the 2D window back onto the rulers.

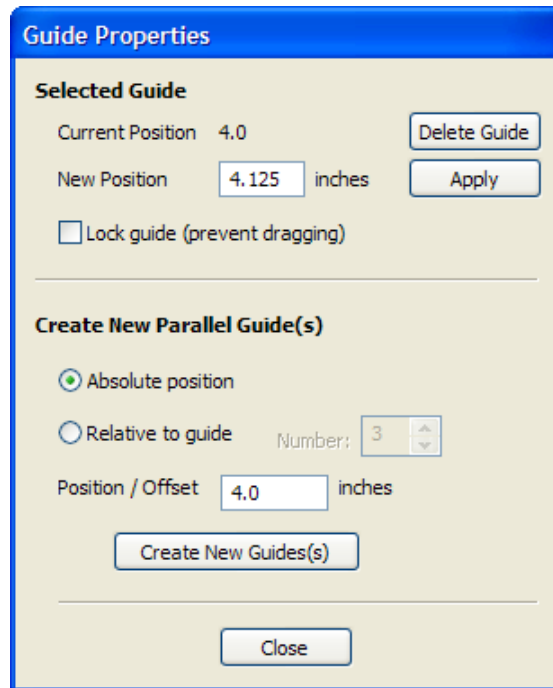
All Guide lines can be deleted using the Main Menu option,

View > Guide Lines > Delete All Guides

To Move, Delete, Lock or Add more Guide Lines place cursor over the guide and click the,

Right mouse button

Position / Delete / Lock
Guide Lines



Create new
Guide Lines

The Guide Properties menu is displayed giving options to,

- Delete the selected guide
- Move the guide it to a new position
- Lock the guide in position to stop it being accidentally moved
- Add additional Guide lines at Absolute positions or at an incremental distance

Guide Lines can also be added interactively relative to an existing Guide by,

- Holding the **Ctrl** key and **Click and drag**, moving the new guide to the required position
- The incremental distance from the original guide is shown next to the cursor
- Releasing the Ctrl key while dragging to position a guide displays the absolute position

Snap Grid

A Snap Grid can now be added to the 2D window to help when drawing and laying out designs. The Snap Grid is switched on / off and the grid size specified by,

- Pressing **F4**
- Selecting **Edit > Snap Options**

When drawing or moving objects the default mode is to snap to the grid points.

Snapping can be overridden / temporarily disabled by holding the Shift key

Snapping Options

The new snapping options automatically work when drawing shapes or positioning objects. The cursor changes to show the various snap options.

When drawing the cursor will snap to,

- End points, Mid-points, Arc centers and centers of objects
- Horizontally, Vertically and the specified Angle and Distance
- Guide lines and the intersection of Guides

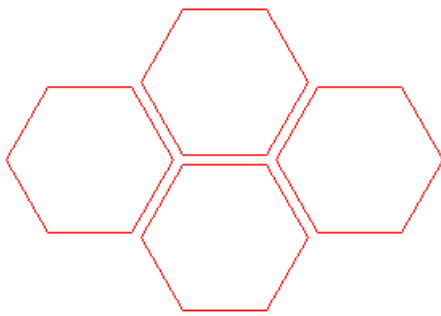
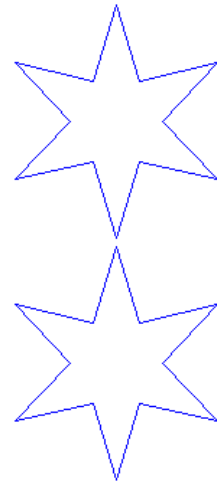
Snapping can be overridden / temporarily disabled by holding the Shift key

Draw Stars and Polygons

Star and polygon shaped vectors can quickly and easily be drawn directly in VCarve Pro by clicking and dragging with the left mouse button.

Click and Drag
or type
Coordinates for
the middle of the
shape

The Inner radius is
specified as a % of
the Outer radius



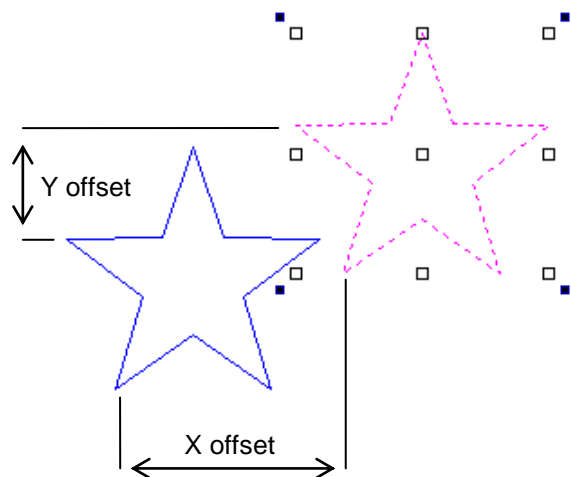
Click and Drag
or type
Coordinates for
the middle of the
shape

Note The properties of a Star or Polygon can be changed by clicking the appropriate Draw icon.

Move Vectors

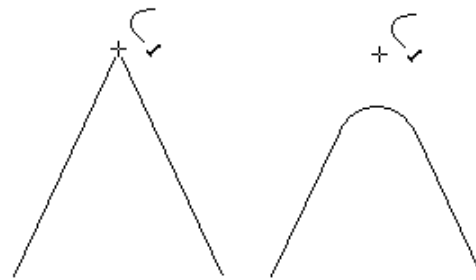
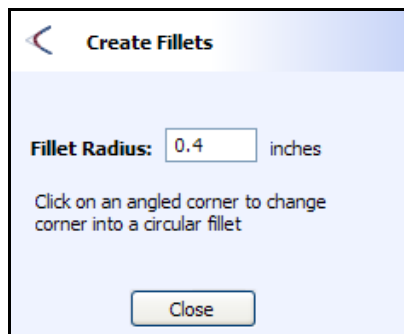
The move vectors form has been enhanced to include the option for moving vectors to an absolute position on the material or simply by an incremental distance.

New
Relative Move
option



Fillet Corners

The new filleting tool allows corner fillet radiuses to be added at the corners or connecting lines.



The cursor changes to show whether a fillet can be added to a point, showing a ✓ Tick when a fillet can be added at the selected point.

Notes Fillets can only be added where connecting lines meet

Fillets cannot be added where Bezier's or Arcs meet or join lines.

Drag Copy – Keyboard Shortcut

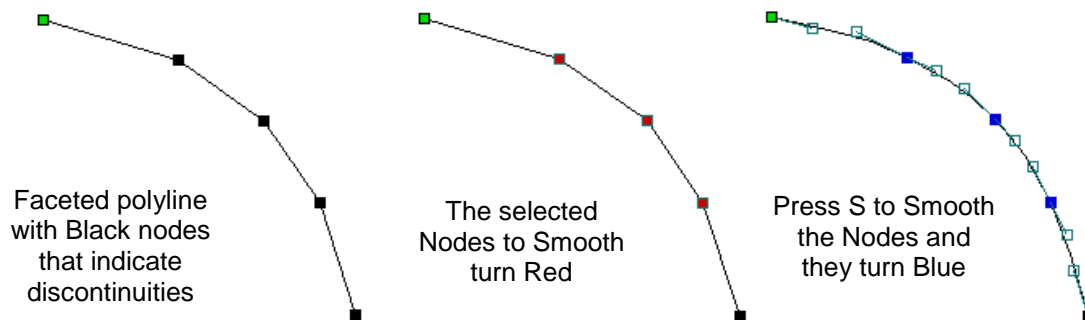
Vectors can be copied interactively by holding the Ctrl key and dragging with the Left mouse button.

Click twice to select the vector and start the transform mode. Then holding the Ctrl key and dragging with the Left mouse button places a copy of the selection every time the left mouse button is released.

Node Editing Options

Multiple nodes can be smoothed – changed from black to blue nodes using the keyboard shortcuts.

Select the Node Editing Tool or press N to start node editing. Select the node(s) to smooth, place the cursor over the node and press the letter S.



Support

If you need assistance or have any questions about the new features in VCarve Pro version 4.5 please use the following options to contact the Vectric Support Team.

E-mail the Support Team

support@vectric.com

Visit the Vectric User Forum

www.vectric.com/forum